Bossier Parish Community College
Master Syllabus

Course Prefix and Number: PHYS 201 **Credit Hours:** 3

Course Title: General Physics I

Course Prerequisites: High school physics or PHSC 105 and MATH 112 or MATH 128

Textbook: Serway and Faughn; College Physics, 8th edition

Course Description:

The introductory semester of a two semester problem-centered study in general physics. Designed for science and pre-medical majors requiring algebraic and trigonometric based solutions. Includes a study of mechanics, heat and sound. .

Learning Outcomes:

At the end of this course, the student will

A. utilize appropriate algebraic and trigonometric skills to develop problem solving skills and apply them to physics problems; and
B. apply critical thinking to comprehend the dynamic interrelationships of energy and motion and to understand and apply these concepts to man's interaction with the physical world.

To achieve the learning outcomes, the student will

1. demonstrate the concepts of velocity and acceleration. (A,B)
2. solve problems dealing with the concept of motion with constant acceleration and free fall. (B)
3. resolve a vector into components. (A)
4. explain the concept of projectile motion. (B)
5. discern Newton's Laws of Motion. (B)
6. solve problems dealing with the concept of force. (A,B)
7. demonstrate knowledge of the concepts of work, energy and power. (A,B)
8. identify the concept of momentum. (A,B)
9. calculate problems of uniform circular motion. (A,B)
10. explain the relationships between translational and rotational quantities. (A,B)
11. calculate pressure, density, specific gravity, and flow rates. (A,B)
12. calculate specific heat, linear expansion, mechanical equivalent of heat. (A,B)
13. explain the kinetic molecular theory. (A,B)
14. calculate basic properties of waves, springs, pendulums and sound. (A,B)
15. explain the concept of wave motion. (B)
16. define the terminology used to describe waves. (B)

17. explain how waves are described mathematically. (A)
18. describe the principle of superposition. (B)

Course Requirements

- minimum 80% on completion and correctness of assigned homework
- minimum average of 60% on unit tests
- minimum 50% on comprehensive final test
- satisfactory review of scientific literature

Course Grading Scale:

A- 90% or more of total possible points, and a minimum average 80% completeness and correctness on assigned homework, and minimum average of 60% on unit tests, and a minimum of 50% on the comprehensive final test, and a satisfactory review of scientific literature

B- 80% or more of total possible points, and a minimum average 80% completeness and correctness on assigned homework, and minimum average of 60% on unit tests, and a minimum of 50% on the comprehensive final test, and a satisfactory review of scientific literature

C- 70% or more of total possible points, and a minimum average 80% completeness and correctness on assigned homework, and minimum average of 60% on unit tests, and a minimum of 50% on the comprehensive final test, and a satisfactory review of scientific literature

D- 60% or more of total possible points, and a minimum average 80% completeness and correctness on assigned homework, and minimum average of 60% on unit tests, and a minimum of 50% on the comprehensive final test, and a satisfactory review of scientific literature

F- less than 60% of total possible points, or less than 80% completeness and correctness on assigned homework, or less than 60% average on unit tests, or less than 50% on the comprehensive final test, or failure to submit a satisfactory review of scientific literature

Reviewed C. Reed/ May 2009